LIVESTOCK STEWARDSHIP 2000

A Public Discussion Paper

JUNE 2000

Manitoba

100-05967/

Message from the Manitoba Government

The agricultural economy and the face of rural Manitoba are changing rapidly. The pace of change is particularly dramatic in the livestock sector, as producers respond to new market forces and economic opportunities.

The Manitoba government has a responsibility to guide this development, and ensure that industry growth does not occur at the expense of the environment or our quality of life. To develop a plan for growth that is both viable and sustainable, we must consider the issues from all perspectives – economic, environmental and social. It is a trust and a challenge we take very seriously.

Over the next several months, we will be consulting with Manitobans as we examine ways to meet this challenge. We look forward to receiving your input through written submissions and the public meetings that will soon be held throughout the province. The consultation process will help our government determine what needs to be done to ensure the industry grows in a sustainable way.

This document is the starting point for the public discussions. It summarizes Manitobans' foremost concerns surrounding livestock industry expansion – specifically, environmental protection, land use planning, quality of life and the vibrancy of the rural economy. It also discusses trends influencing the industry, the regulatory environment and experiences in other livestock-producing areas. The objective is to raise awareness, stimulate thought and focus public discussion.

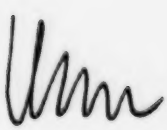
Expansion of this sector raises many other issues, including labour standards, training needs and research activities. Our government will consider all of these factors as the industry expands.

We hope you will find this information useful as you prepare to share your views, concerns and ideas. Thank you for your attention to this important matter.

This discussion paper is the starting point for public consultations on the future of our livestock industry.

Your input will help the Manitoba government determine how the industry should grow in an environmentally sustainable way.

Please see page 39 for information on how you can make a written submission or public presentation.



Oscar Lathlin
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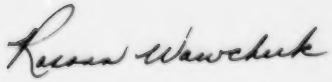

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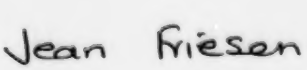

Jean Friesen
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Table of Contents

Where We Are Today

Historical Overview 3

Why Our Livestock Industry is Growing and Changing 4

Outlook for Manitoba's Livestock Industry 6

Common Concerns 10

Experiences Elsewhere 19

Regulations and Approval Processes

Manitoba Regulations and Guidelines 24

Regulatory Approaches Throughout North America 33

Moving Forward in Manitoba

The Livestock Stewardship Initiative 38

Share Your Views 39

For More Information 39

Where We Are Today

Historical Overview

Manitoba's agriculture sector has changed dramatically over the past century. In 1900 nearly 80 per cent of the province's population lived on farms. Today the bulk of agricultural production is destined for export to markets across the world, and only about 3 per cent of Manitobans are involved in primary food production.

Improved skills, technologies, equipment and distribution methods have greatly increased food production and lowered food prices. Sixty years ago, each Manitoba farm produced enough to feed 50 people, while today, each farm feeds 350 people. Today Manitoba consumers only have to work about one-third of the time they did 60 years ago to buy the same basket of food items.

The growth of agriculture over the past century has been one of peaks and troughs. However, there has been a steady increase in livestock production.

In the early 1900s, Winnipeg became known as "Chicago of the North" because of its role as a transportation hub and a centre for cattle slaughter and grain. By the 1980s much of the beef finishing industry had moved to Alberta. While Manitoba's cattle slaughter dropped from a high of 581,000 head in 1976 to only 20,000 in 1998, the beef cow herd increased to 550,000 cows by 1998.

The hog and poultry sectors have continued to grow steadily, primarily through intensive production methods. Market hog production rose from 870,000 head in 1975 to over 4.7 million in 1999. Farm cash receipts from livestock climbed from $780 million at the start of the decade to over $1 billion by 1999, with most of this increase coming from increased hog production. Farmers currently have $13.7 billion invested in farm assets such as land, buildings, machinery and livestock, and spend nearly $2.5 billion annually on goods and services.

The new processing facilities coming on stream in Manitoba over the next two years will have the capacity to slaughter and process almost 10 million hogs annually. To meet the increased demand, more than $1.3 billion in investment and operating capital will be needed to expand the region's hog production facilities. Some of this expansion is likely to occur in Manitoba, although some will also occur in neighbouring provinces and states.

The pace of expansion is accelerating. Hog production increased by 55 per cent in the 10 years between 1984 and 1994, and by 58 per cent in the four years between 1994 and 1998. The beef cowherd grew about 2 per cent annually during the 1980s, compared to almost 6 per cent annual growth in the 1990s.

The increase in efficiency has been a major factor in the growth of Manitoba's livestock production. For example, Manitoba's dairy industry is producing nearly the same amount of milk as it did 10 years ago, but with 16 per cent fewer cows. From 1994 to 1999, the province's chicken production increased by 40 per cent. Table egg production increased by 15 per cent in the same period.

In 1996 almost 17,000 farm families were making at least part of, if not all of, their farm income from livestock production.

More than 8,000 rural families are involved in businesses servicing these livestock producers, and these numbers continue to grow.

Why Our Livestock Industry is Growing and Changing

The size, structure and management of livestock operations is changing because of shifts in farm policy, market forces and technology. Because of these factors, many Manitoba farmers feel livestock production offers more opportunity than traditional grain production. Livestock operations are also getting bigger, more technologically advanced and more vertically linked to other participants in the livestock industry.

Diversification of Risk

Farming is a high-risk, low-margin, highly capitalized industry. As a result, farmers are diversifying into new types of production, such as livestock, to reduce risk and fluctuations in their net income.

Changes in World Demand for Agricultural Products

World trade in wheat has hovered around 100 million tonnes for the past 20 years, and prices for grain have shown a steady decline in constant dollars. However, rising incomes in the U.S., Central America, Europe and Asia have created a major increase in demand for meat and edible oils.

The Crow Benefit

Federal government support programs for the grain sector have been reduced, in part because of international trade agreements. Rail freight subsidies were removed when the Western Grain Transportation Act (the Crow rate subsidy) was terminated, making it much less economical to export feed grain from Manitoba.

These changes have taken $100 million out of the annual income of Manitoba farmers. As a result, some of the traditional grain-producing areas are looking for new ways to generate the jobs and economic opportunity needed to keep their communities alive. Many see livestock production as the answer to this formidable challenge.

Technology

Developments in production technology have significantly improved the ability to raise livestock under Manitoba conditions. The use of environment-controlled housing for hogs, poultry and dairy has changed the economics of intensive livestock production. These new engineering designs have been combined with superior management systems, computerized feeding and climate control. Improved animal husbandry, improved genetics from international livestock breeding companies, product pricing based on quality standards (indexing) and better ration designs have also improved the efficiency and productivity of Manitoba's livestock producers.

Investment

New sources of equity capital are allowing producers to take advantage of the economies of scale offered by the improvements in building design and technology. In turn, credit agencies have expanded their lending programs.

Integration

New livestock operations have sought to reduce costs and improve profits by integrating throughout the production chain. Integration with feed mills and processors is becoming much more common in hog and poultry processing, particularly in areas surrounding the feed mills in southeastern and central Manitoba.

Synergy

The concentration of development in Manitoba has created alliances between farm units and the suppliers of services such as feed mills, veterinary services, trucking, animal breeding, marketing and capital supply. This synergy gives Manitoba an international competitive edge in hog and poultry production.

Processing

The growth of livestock production has encouraged the Manitoba processing industry to grow. New and expanding international-scale processing facilities drive further local production of livestock.

Outlook for Manitoba's Livestock Industry

Trends towards consolidation and integration are developing in some of the livestock sectors. Each sector is expected to grow and evolve, but in different ways because of differences in product demand and use.

Hogs

Hog production in Manitoba is concentrated in southeastern and south-central parts of the province. Some of the recent expansion in the industry has occurred in western and southwestern Manitoba.

Total production of finished hogs in Manitoba this year is expected to exceed five million (from newborn to market ready hogs, inclusive of boars and the current provincial herd). A total of 10 million hogs will be required annually to meet the anticipated demand from Maple Leaf, the proposed J.M. Schneider processing plant and other processors.

Most of the recent expansion in hog production has involved larger sized operations, usually through development of "three-site" operations by several companies. Typically a new 1,200 to 1,500 sow, farrow-wean barn (site 1) is built. The weaned pigs are moved to an off-site nursery (site 2), which usually consists of four or five barns, each capable of holding 2,000 or 2,500 pigs. When the pigs reach a weight of about 23 kilograms, they are moved to a grow/finish facility (site 3), which usually consists of three to five barns, each capable of holding about 2,000 pigs.

To meet the demand created by the new hog processing plants, producers would need to add about 300,000 more sows. This increase in inventory would require an additional 150 sow barns (2,000 sows/barn) and about 300 grower/finisher barns (8,000 feeder capacity). Construction of the barns and associated infrastructure to accommodate this increase has been estimated to cost nearly $1 billion.

Under provincial regulations for manure application, about 500,000 acres of land would be needed to accommodate the additional manure created by this level of hog production. Manitoba has about 13.3 million acres of cropland, plus four million acres of forage. Therefore, the additional lands required for livestock production or manure application would equal about 4 per cent of the crop base. Livestock producers probably supply less than 20 per cent of the required nutrients for annual crop production, with the balance supplied from commercial fertilizers.

Poultry

Chicken and turkey production is concentrated in the southeast corner of Manitoba, close to the poultry processing plants. Table egg production is also concentrated in the southeast but is more spread-out across the province.

Most expansion is expected to involve family-run operations. The Manitoba Chicken Producer Board has increased the quota of all small operations to help them remain commercially viable. Two large producers may consolidate their quota onto two locations in the next five years, which would increase the number of broiler farms over 400 animal units in Manitoba from two to four farms. Expansion in the broiler industry has been divided among the smaller farms and is not expected to create farms with more than 400 animal units.

One large egg farm with 500,000 hens has been constructed and is run as a family operation. Individuals who have consolidated their quota have constructed two other large laying hen farms with 150,000 birds each. Another large commercial egg farm is expected to be built in the next five years because of quota consolidation. Two large leghorn breeder farms may also be constructed. The number of hen operations in the province with over 400 animal units in one location will increase from seven to ten farms. It is expected that 70 per cent of the farms in the province will continue to be very small, with less than 20,000 hens or 200 animal units.

None of the turkey farms or broiler breeder farms is over 400 animal units. One broiler breeder farm may grow to nearly 400 animal units within the next five years.

Dairy

The number of milking cows may continue to shrink but individual productivity will continue to climb. The average farm dairy herd is increasing in size to achieve economies of scale. Dairy cows per farm have increased to an average of about 56 to 58 animals. However, the range in herd size varies from a low of 20 to a high of about 450 cows. The fastest growing sizes of herd are those in the range of 80 to 200 cows.

Since 1985, the number of dairy farms has declined from about 1,250 to 660. Production per cow continues to steadily rise with improvements in cow comfort, nutrition, herd health and newer, more cow-friendly facilities.

The rising quota price has prompted a significant number of producers to move out of the industry rather than reinvesting and expanding their individual operations. Other producers who have decided to make a long-term investment in their operations are purchasing quota sold by those leaving the industry.

Increased interest in forming cooperative dairies owned by a number of producers will likely occur. This may help to keep smaller quota holders in the industry because of improved margins on their investment, despite possible future declines in milk prices or quota values.

Beef

Manitoba's beef cowherd is now over 550,000 animals and may continue to grow slowly. The efficiency of production is also expected to increase with more pounds of beef produced per acre. Manitoba currently produces over 500,000 calves per year with most going to feedlots in Alberta. There has been no movement toward consolidation or integration as most of the production continues to come from small farms.

Because of the increasing productivity of the forage acreage, Manitoba is expected to see more backgrounding (the practice of feeding and managing cattle at the stage between weaning and finishing). If large feedlots do develop, they will likely be of the 25,000-head size, as economies of scale have already made this the standard unit size in Alberta.

Impact on Crops

Expansion of the livestock sector could be the most significant influence on the crop sector in decades. For example, production of 10 million hogs would require about 1.5 million additional tonnes of feed grain (mainly barley), or the average yield from 1.1 million acres. The total area currently devoted to barley production is about 1.5 million acres. Expansion in beef and poultry would also require additional feed grains. This would considerably reduce the grain sector's dependence on export markets, and improve profitability because of reduced transportation costs.

Research and Development

Governments and the private sector are accelerating their efforts in manure management, including alternative methods of handling manure, development and extension. Examples of recent advances include:

- injection of manure to cropland and grasses
- development of new liquid manure injection tools for pastures and for cropland
- development of straw and plastic covers for liquid manure storages
- development of two types of automated manure nutrient monitors
- support of an olfactometry facility at University of Manitoba to test odour suppressants, barn/manure management systems and designs
- surveys of odour levels near hog operations and neighbours' perceptions
- remote location for manure storage structures
- evaluation of effectiveness of construction standards on controlling seepage under earthen manure storage structures
- study of influence of application method on nitrogen emission from manured fields
- pathogen control techniques
- reduction of water consumption and manure volume at hog operations
- evaluation of effects of variable manure application rates on soil quality, including phosphorus loading

- use of GIS technologies for siting livestock operations
- monitoring of leaching under manured and non-manured cropped fields
- controlling runoff from manure applications and confined livestock areas, including riparian zones
- development of manure application rate calculator software (MARC98) to provide support for manure management planning and registration of plans

Processing

Manitoba has 28 provincially registered abattoirs that process small numbers of livestock, and two provincial abattoirs processing poultry. In 1999, 26 provincial abattoirs slaughtered over 12,000 cattle and 135,000 hogs as well as sheep/lambs, ostriches, emu, goats, bison and wild boar.

The largest processing facilities in the province are devoted to hogs. Currently, 80,000 hogs are slaughtered weekly. About 45,000 of these hogs are processed at the Maple Leaf plant near Brandon, which is designed to expand to a two-shift capacity of 90,000 hogs per week.

J.M. Schneider recently announced plans to increase processing capacity at their Winnipeg plant to 90,000 hogs per week. These processors, combined with the other smaller plants in Manitoba, will have the capability to process 10 million hogs per year when running at full capacity.

Export Trends

Approximately 90 per cent of Manitoba's hogs and pork are marketed to other provincial and international markets. The province's two largest international markets are the United States and Japan. A total of 72,900 tonnes of pork valued at $196.7 million were exported in 1998.

To build on its international reputation for high quality, Manitoba's pork industry is implementing the Canadian Quality Assurance (CQA) program. Approximately 1,100 of Manitoba's pork producers were registered on the CQA program as of the end of February 2000.

Employment

Manitoba meat processing plants currently employ about 2,860 staff and have a combined annual payroll of approximately $75.5 million. Adding a second shift to Maple Leaf's production line in Brandon will add approximately 1,100 more staff. A similar number of staff are expected to be added to the workforce at Schneider's proposed Winnipeg expansion. The spin-off effects of the expansion are expected to create 5,500 additional jobs.

Common Concerns

While intensive livestock production can mean economic opportunity for Manitoba, concerns have been raised about the environmental and social consequences. The growth of Manitoba's livestock industry expansion must take place in a sustainable manner, addressing environmental considerations, such as soil and water quality, as well as concerns related to public health, property values and quality of life.

Groundwater

Groundwater is the source of potable water supply for approximately 20 per cent of Manitobans, most of whom are rural. The quantity and quality of groundwater is extensive and excellent in some areas of the province such as the Interlake, while limited and of poor quality in other areas.

Sensitive Areas:

Aquifers covered by thick layers of dense clay are protected from contamination that might be caused by human activities above ground. However, aquifers covered by thin layers of soil or exposed at ground surface are considered sensitive to contamination.

Potentially sensitive areas can be found in the Carbonate Rock Aquifer underlying the Interlake. This aquifer is an extensive, highly fractured limestone formation through which water and contaminants can move easily and rapidly. Some areas are exposed at the surface or covered by very thin layers of soil.

Other sensitive areas can be found in the Carberry Aquifer, the Assiniboine Delta Aquifer and the Winkler Aquifer, which are composed of sands and gravel that are covered either thinly by soils or not at all. Contaminants could move easily and rapidly among the grains of sand and gravel in these aquifers.

Manitoba law does not prohibit establishing an agricultural operation or any industrial enterprise in a groundwater sensitive area. Unlike industrial enterprises, agricultural operations are exempt from licensing under the Environment Act. Instead, livestock production is regulated under the Environment Act through the Livestock Manure and Mortalities Management Regulation. The regulation imposes requirements for siting and constructing manure storage facilities and applying manure as fertilizer. (For further detail, see "Manitoba Regulations and Guidelines.")

Nitrates:

Nitrates are chemicals made up of nitrogen and oxygen. They occur naturally and are essential for plant growth. However, excess levels of nitrates in soil increase the risk of contamination to water supplies, creating a potential health concern.

Improper application of manure or commercial fertilizers to fields can cause nitrates to build up in soil. Seepage from manure storage areas, or from domestic septic fields and municipal sewage systems, may also cause excess nitrate levels.

If nitrates leach from the soil into underground aquifers, well water can be contaminated. The extent of contamination, and how quickly it occurs, depends on soil type and depth of the water source. Nitrate contamination is more common in shallow wells than in wells drilled into deeper aquifers. Heavy rains and flooding also affect the amount of nitrate that reaches both ground and surface water.

Nitrate in drinking water can be a health concern because it interferes with the ability of red blood cells to carry oxygen. The shortage of oxygen may affect infants or the fetus in pregnant women.

The recommended limit for nitrate in Manitoba drinking water is 10 milligrams per liter (nitrate measured as nitrogen). This is the same limit established by Health Canada, as well as by the U.S. Environmental Protection Agency and the World Health Organization.

In Manitoba, the Livestock Manure and Mortalities Management Regulation sets maximum levels of nitrate that may be present in soils. These limits match the annual nitrogen requirements of the crop to be grown. In this way, the restrictions are intended to prevent a build-up of nitrates in the soil and minimize the risks to groundwater.

Large-scale operations are required to register annual manure management plans, including mandatory soil analyses and descriptions of soil conditions, crops to be grown, quantity and nitrogen content of manure to be applied and locations where manure is to be applied. (For further detail, see "Manitoba Regulations and Guidelines.")

Groundwater Withdrawals:

Some people have expressed concern about the rate of groundwater withdrawal required to supply intensive livestock production operations. The concern is that the aquifer may be depleted or that the withdrawals could affect neighbours' wells.

Manitoba's Water Rights Act requires a licence for developments that withdraw more than 25,000 liters of groundwater per day. Most intensive livestock production operations use more than this amount for watering stock, washing facilities, cooling, dust control and manure transport. (For further detail, see "Manitoba Regulations and Guidelines.")

Definitions:

Aquifers *are geological formations that produce useful amounts of good quality water.*

Groundwater *refers to water drawn from underground water sources, such as aquifers.*

Surface water *includes lakes, rivers, streams and other wetlands.*

Surface Waters

Surface water is the source of drinking water for nearly 80 per cent of our population. Many communities also rely on surface supplies for fire protection, sewage disposal, electrical power plants, irrigation, livestock production and other industrial and municipal purposes.

Livestock operations can affect water quality if manure and urine are allowed to enter surface waters, either through runoff or direct access of livestock:

- Nutrients such as phosphorus and nitrogen can stimulate large algae growths, known as blooms, in rivers and lakes. In addition to being unsightly, blooms of certain species may be toxic to livestock and wildlife. Algae blooms eventually die and their subsequent decay removes dissolved oxygen from the water. This can result in fish kills and obnoxious odours which impair recreational values.
- Ammonia in manure-contaminated runoff may be toxic to fish and other aquatic life.
- Decay of organic matter removes dissolved oxygen from the water, and can result in fish kills and obnoxious odours.
- Pathogens may be present and may pose a risk to livestock, wildlife and humans that may drink or come into contact with downstream waters.

Phosphates:

Phosphates are chemicals made up of phosphorus and oxygen. Phosphorus is an essential nutrient for plants but cannot be used by them unless it is dissolved in water as phosphoric acid or other phosphates. Phosphorus is abundant in soils, certain rocks, fertilizer, sewage and manure. Extremely small amounts of phosphorus in surface water may stimulate the growth of extensive amounts of algae. These growths, know as blooms, may cause foul odours and fish kills, or may even be toxic to animals. The odours and unsightly masses of algae may also affect recreation and property values.

Runoff:

Runoff contaminated by manure may originate from livestock pens, areas where free-ranging livestock congregate, farmyards, field storage sites where dry manure is temporarily piled prior to spreading, or fields where manure has been spread. Runoff may occur after heavy rains or following spring melting of snow and ice, and unless carefully managed, can carry a variety of contaminants to surface waters.

The Livestock Manure and Mortalities Management Regulation prohibits the escape of manure or manure contaminated runoff from agricultural operations. Contamination of surface water by runoff or discharge of manure is also prohibited. (For further detail, see "Manitoba Regulations and Guidelines.")

Livestock producers can help protect surface waters from runoff by maintaining well-vegetated and protected riparian zones. These strips of land located immediately adjacent to bodies of surface water help to improve water quality by filtering runoff and stabilizing banks.

Direct Access:

Free ranging livestock with direct and unrestricted access to surface waters may affect water quality. Livestock can trample shorelines during watering or lounging, thereby destabilizing banks, increasing erosion, decreasing water clarity and filling the channel with silt. Free access also allows livestock to release manure and urine directly into the surface water or onto the stream bank, from which it may run off during the next rain.

Historically, livestock producers selected sites next to streams and lakes because of the assured water supply and the protection offered by surrounding trees and valleys. Today, most producers have re-established their livestock housing and manure storage facilities at locations well back from streams and lakes. However, it is impractical to fence off most of the riparian zones in Manitoba's vast pasturelands.

Free ranging livestock tend to be healthier and more productive when they are provided with off-site watering. Where direct access is necessary, access points should be limited in size and number as well as protected with stones to reduce erosion damage.

The Livestock Manure and Mortalities Management Regulation prohibits direct access from confined areas that hold more than 10 animal units of livestock. Direct access by livestock on rangeland is not prohibited. (For further detail, see "Manitoba Regulations and Guidelines.")

What do you think?

◆

What options should be considered to protect water quality and riparian zones?

What do you think?

◆

How effective are current processes to address odour complaints?

◆

What options should be considered to improve the situation?

Odour

Sensitivity to odour differs greatly from one individual to another. High concentrations of very strong odours can result in nasal irritations, trigger symptoms in individuals with breathing afflictions and asthma, or add to the stress a person may be feeling.

The three main sources of odours on livestock operations are the livestock housing or containment area, the manure storage site or structure, and the application of manure to land. The intensity of odour depends on a wide variety of factors, such as the number of animals, the manure management system and the type of animals being raised.

Outdoor facilities are used to raise Manitoba livestock such as cattle and elk, while other animals, such as poultry and swine, are raised indoors. Odours from livestock housing are generally of low intensity but may be present during most of the year. While all types of manure storages release some odours, liquid manure storage structures tend to release the greatest amount of odour. Application of livestock manure to land generally produces the most odours from livestock operations.

The release of strong odours during manure application can be reduced by tilling the land soon after application or by injecting liquid manure directly into cropland. Rows of trees around manure storage structures help diffuse odours higher up in the air, essentially diluting them to less-noticeable levels. However, planting shelterbelts is a long-term solution that takes time to establish. The keys to reducing odour complaints are proper siting of a new livestock operation and good manure management.

The Farm Practices Protection Board, mandated under the Farm Practices Protection Act, has been established to consider nuisance complaints against agricultural operations from persons directly affected by the disturbance. The board conducts an investigation to determine whether an operation is following standard farming practices as prescribed in the Farm Practices Guidelines for livestock producers in Manitoba. An order to cease or modify practices may be issued against operators who do not follow standard practices. (For further detail, see "Manitoba Regulations and Guidelines.")

Disease Transmission

Some neighbours of livestock operations are concerned about transmission of disease from animals to humans (zoonotic diseases). Bacteria, viruses, protozoa and parasites can spread these types of diseases:

- Bacteria are commonly found in livestock manure, and may survive for some time. Only a few of these bacteria can be transmitted to humans from animals.
- Viruses that may be present in livestock manure do not normally survive for long. Bacteria and environmental conditions inactivate viruses, which need a host organism to reproduce.
- Parasites, such as roundworm and nematodes, can produce eggs that survive in livestock manure. However, most usually cause disease only in the host animal species, and not in humans.
- Protozoa are hardier, and may cause illness, particularly if present in drinking water sources.

Disease-causing organisms can be spread from livestock to humans through direct contact such as touching animals or handling manure. Showering, changing clothes and using an antiseptic wash helps prevent illness after working with manure or in a barn.

Disease can become water-borne if organisms in the manure migrate to sources of drinking water. Migration can occur if manure is spread too close to surface water or in areas of steep slope. Rapid movement to groundwater can also occur if manure is spread in areas with sinkholes, bedrock outcrops or very coarse soils.

The keys to preventing pathogen transmission are proper management of manure and proper storage and disposal of mortalities, as outlined in the Livestock Manure and Mortalities Management Regulation. (For further detail, see "Manitoba Regulations and Guidelines.")

Management of Mortalities

Proper management of animal mortalities is necessary to protect the health of other livestock and humans, as well as the environment.

The Livestock Manure and Mortalities Management Regulation requires mortalities to be stored securely and kept either refrigerated or frozen if they cannot be disposed of within 48 hours. The regulation allows disposal of mortalities through rendering, composting, burial or incineration.

Rendering produces a wide variety of products ranging from plastics to soil amendments for botanical purposes. Many livestock operations now use a dead stock pick-up service operated by a Winnipeg-based firm.

Composting of dead stock must be conducted in a location where the base is comprised of a material that will prevent downward or off-site movement of any leachate. The site must also be secure from scavengers such as foxes, dogs and crows. Sawdust and straw provide excellent carbon sources for composting dead stock. When properly done, composting is odourless and yields a valuable soil amendment.

Burial is sometimes the only reasonable option for large numbers of mortalities. After an event such as a barn fire, dead stock cannot be easily separated from rubble, and are therefore unsuitable for rendering. Burial must occur in suitable soil conditions with at least one meter of clay separating the bottom of the burial pit from the top of the water table and at least one meter of soil cover.

Incineration is an expensive option that may be suitable for small numbers of mortalities. Incinerators used for disposal of dead stock must comply with the requirements of the Incinerators Regulation under the Environment Act. (For further detail, see "Manitoba Regulations and Guidelines.")

Excessive Manure Application

Manure is an excellent natural fertilizer. However, over-application can result in excessive levels of nitrogen in soil, leading to problems such as crop lodging and delayed ripening. Too much manure can also aggravate problems in saline soils.

Over-application may also cause excessive build-ups of nitrates. These accumulations can leach downward and contaminate aquifers, or may run off into surface waters.

Manure application is regulated under the Environment Act through the Livestock Manure and Mortalities Management Regulation. The regulation establishes maximum nitrate levels for soils and requires large-scale livestock production operations to register annual manure management plans. (For further detail, see "Manitoba Regulations and Guidelines.")

Although manure application regulations are based on nitrate concentrations and requirements, phosphorus is the nutrient most often implicated in surface water pollution. Phosphorus is not readily transported by water from the application site because it binds tightly to Manitoba soils. However, even minute amounts of phosphorus carried to surface water can have serious environmental consequences.

Land Use Planning and Development Approvals

In many rural areas, both the structure and economic activities of the community are changing.

The consolidation of farms is reducing the size of the farm community while the increase in rural residential subdivisions is bringing more non-farm residents to rural Manitoba. Some municipalities view such development as positive because it makes use of existing infrastructure, counters the dwindling rural farm population and helps maintain the municipal property tax base. However, residential development in farming areas also creates greater potential for land use conflicts. Plans for new livestock production businesses or expansions often encounter opposition from residents of these developments.

Another significant change is the livestock industry's movement toward highly specialized, larger, more capital-intensive operations. The expansion of the intensive livestock industry has raised awareness of the need for improved land use planning and development approvals to minimize potential land use conflicts and protect natural resources. Local control is provided by local planning policies and zoning regulations enacted and implemented by local and district planning authorities. (For further detail, see "Manitoba Regulations and Guidelines.") The provincial government provides professional planning advice as well as cost-shared financial assistance to municipalities wishing to form planning districts for joint land use planning.

Eighty-three per cent of municipalities are represented by local planning authorities. The other 35 municipalities have no local or district plan in place, and therefore limited means to meet the challenges and opportunities of an expanding livestock industry.

Property values

The impact of livestock production on property values is difficult to determine. Anecdotal information suggests both positive and negative impacts, and factual data for Manitoba is unavailable.

Researchers in other jurisdictions, such as Iowa, have attempted to examine this issue. Direct comparisons with Manitoba are difficult because of differing circumstances in the two areas.

What do you think?

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Do you feel that farming and intensive livestock production should be the priority land use in designated areas? Why or why not?

◆

How important is protection of farming in your municipality?

◆

Some people think further residential subdivision and development should be restricted in farming areas. How do you feel about this?

◆

What impact has livestock production had on local property values?

What do you think?

◆

How can we ensure opportunities continue to exist for all sizes of farms throughout agro-Manitoba?

◆

How can we be assured that equal environmental controls are in place for all types of operations?

◆

What other social costs and benefits of the livestock industry should be examined?

◆

How can technology or innovation in design and development of livestock operations be used to minimize quality of life "nuisance" complaints?

Quality of Life

Plans for intensive livestock production raise concerns about noise levels, dust, strong odours and road traffic. These concerns may arise wherever intensive livestock production is proposed, regardless of whether few or many of these operations currently exist.

The Trend toward Larger Operations

Changing production systems have been accompanied by changes in the size and ownership patterns of farms. Manitoba is undergoing a strong trend toward much larger operations, sometimes owned by several partners who have combined their resources to achieve economies of scale. Many livestock operations are also becoming more vertically linked to other participants in the industry.

Some Manitobans worry that the traditional family farm will be unable to compete with these large, integrated businesses. They also see the difficulties of developing regulatory approaches that are fair and practical for all of the various sizes and types of livestock operations.

Experiences Elsewhere

Intensive livestock production is not new, and technologies and practices are rapidly evolving. Manitoba can benefit by examining the mistakes and appropriate decisions made elsewhere, and the differences and similarities of our jurisdictions.

North Carolina

In North Carolina, hog production tended to encroach on established urban residential areas, leading to land use conflicts. The industry has also raised environmental concerns, related in part to the state's climate and topography.

Hog production is concentrated in the eastern part of the state. Many storage structures were built on hillsides to reduce construction costs. Consequently, when an overflow occurs, a breach forms from the top to the bottom of the structure and the storage is completely emptied. The manure then runs downhill, into the nearest surface watercourse. The area is also subject to hurricanes, which have caused failures of several manure storage facilities near the coast.

The state lacks the necessary land mass and feed grain production to use all manure as a crop fertilizer. Instead, liquid manure is usually stored in treatment lagoons, similar to a small-scale version of a municipal sewage treatment plant. In the area's temperate climate, these manure treatment lagoons are able to function all year round, reducing nitrogen, organic matter and odours. Manitoba's cold climate prevents the use of this type of treatment system.

Lessons learned:

- The design of manure storage structures should incorporate sufficient freeboard capacity to withstand heavy rains.
- There must be appropriate distance between new manure storage structures and watercourses.
- A requirement for additional engineering should be considered for existing manure storage facilities that do not meet regulatory setback requirements.
- Sufficient cropland should be available to apply manure at rates in accordance with crop nutrient requirements.

The Netherlands

The density of livestock and poultry is extremely high because of the small land base in the Netherlands (approximately one-quarter that of Manitoba). As a result, the livestock sector produces far more manure than is needed to fertilize crops. The amount of manure produced in excess of crop requirements each year is equal to the total amount of manure produced annually by livestock in Manitoba.

This situation results in over-application of manure on crops, particularly in the eastern and southern Netherlands, where the most intensive livestock production occurs. The environmental problems are complicated by the over-application of inorganic fertilizers, which are relatively cheap.

In response to the problem, the Netherlands introduced manure production rights to restrict the production of livestock manure. Animal feeds with low mineral content were promoted, causing phosphate levels in manure to fall by an average of 10 per cent. The sale of manure was also promoted to redistribute manure from areas of high stocking densities to areas of lower stocking densities. Improved fertilizer recommendations and the replacement of fertilizers by manure have led to a 30 per cent reduction in fertilizer use over recent years.

In 1998, the Netherlands introduced a minerals accounting system. Livestock farms over a certain density are required to register the nitrogen and phosphate input used in fertilizers and animal feeds, and the nutrient output in the form of products and manure. A levy is applied on nutrient losses greater than the allowable standard. Apart from the levy, the accounting system is similar to Manitoba's Manure Management Plan requirements for large-scale livestock producers.

Lessons learned:

- The cumulative nutrient supply provided by manure and fertilizer should not exceed the crop nutrient requirements for the same area.
- Nutrient management requires careful planning every year to prevent environmental problems.
- Correcting excessive nutrient application after environmental damage has occurred is very expensive and difficult.

Denmark

Denmark is one-fifth the size of Manitoba but produces approximately the same number of hogs as all of Canada. Approximately 62 per cent of the land is devoted to agriculture with less than half of that seeded to annual crops.

Danish manure policy controls the input and use of nitrogen from both manure and commercial fertilizers. Phosphorous is not currently considered a problem but is being monitored.

Livestock production is generally limited to the land's capacity to produce feed. Nitrogen input standards are defined for each farm and piece of land, and are divided according to crop type, soil type and microclimate. Farmers must dispose of surplus manure in the neighborhood of the farm on a contract basis. Each year approximately 60,000 Danish farms provide the government with a fertilization plan, including a government-established quota for commercial fertilizer. The plans are subject to audit and a fine is imposed for excess nitrogen.

Manure may only be applied to unfrozen cropland from February 1 to September 30, and to grassland from July 1 to September 30. Incorporation must take place within 12 hours of application. Manure storage facilities are legally required to have nine months of storage capacity.

Lessons learned:

- The delicate balance between nutrient inputs from manure and fertilizer, and nutrient exports from crop and livestock production, becomes increasingly difficult to maintain as sustainable productive capacity is approached. Annual planning is essential.

Regulations & Approval Processes

Manitoba Regulations and Guidelines

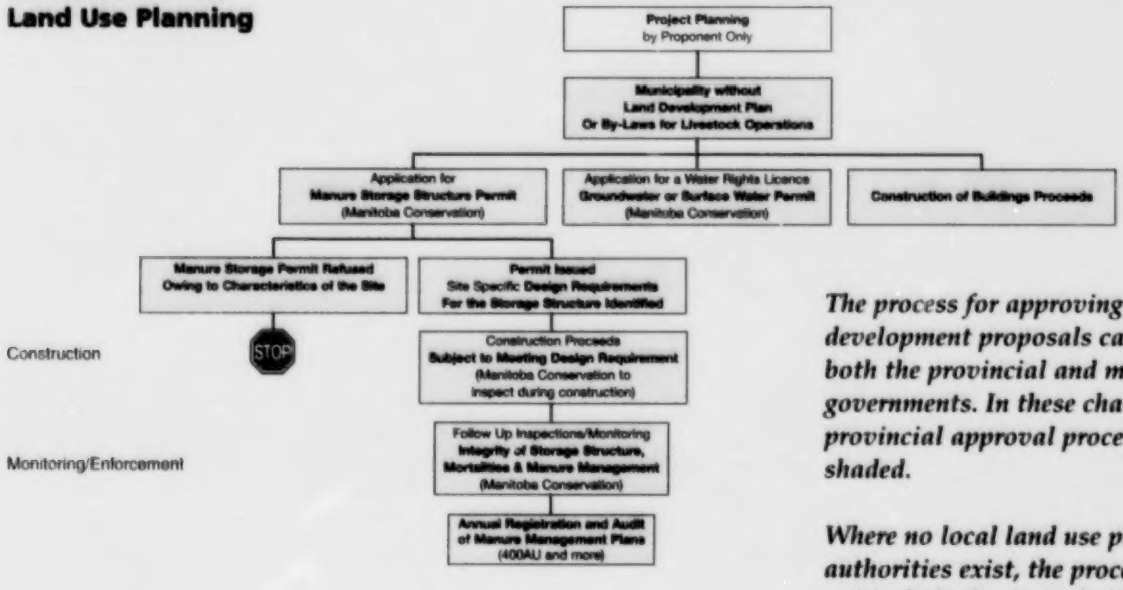
The complete text of provincial acts is available from the Manitoba government Web site at www.gov.mb.ca/chc/statpub/free.

In Manitoba, siting of livestock operations is generally controlled at the local level through issuance of development permits by the municipality or planning district. The Manitoba government's Planning Act allows for voluntary land use planning at the local government level, guided by the Provincial Land Use Policies.

The provincial government actively encourages municipal planning. The province also offers the assistance of the Regional Technical Review Committee and the Farm Practices Guidelines to help local councils evaluate the merits of livestock development proposals.

Livestock Development Approval Process

Areas with Local Land Use Planning

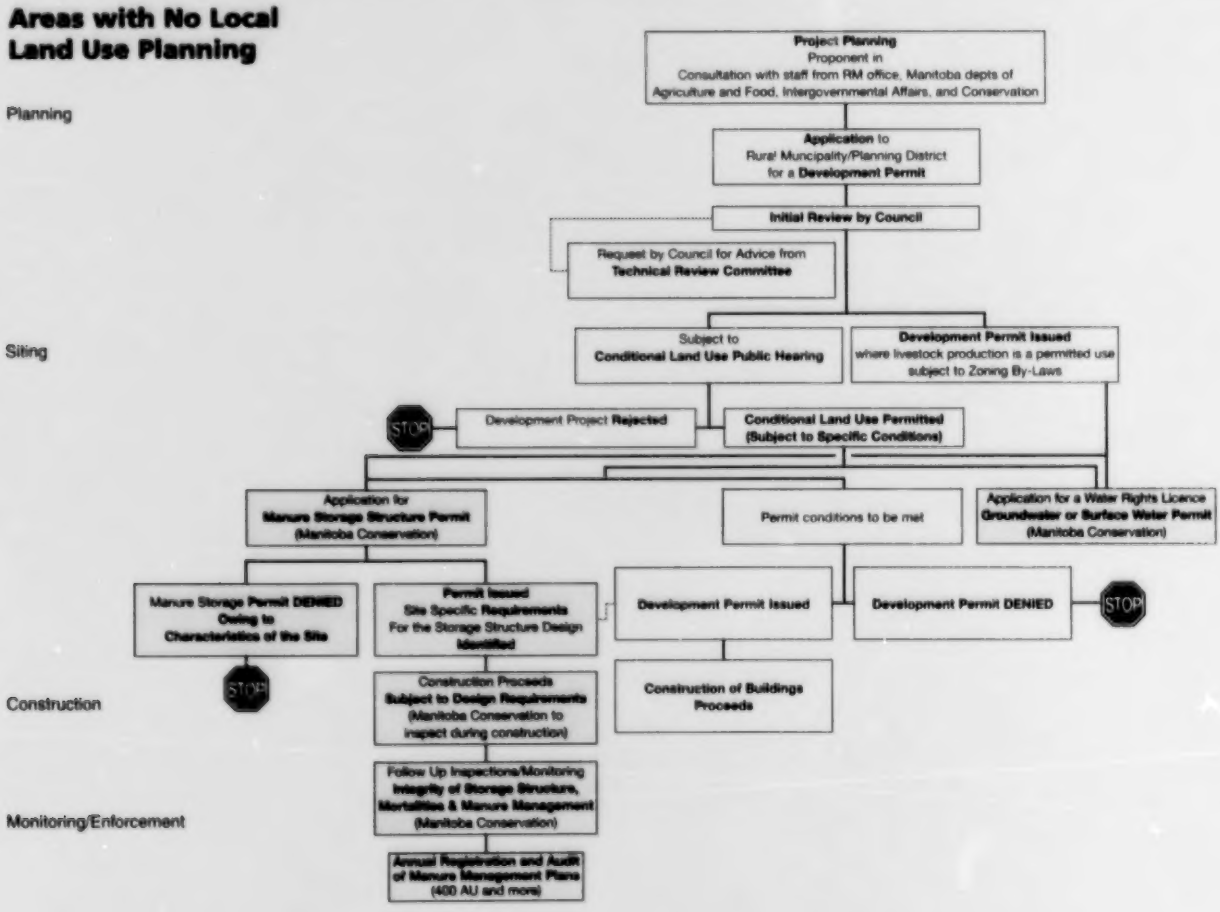


The process for approving livestock development proposals can involve both the provincial and municipal governments. In these charts, the provincial approval processes are shaded.

Where no local land use planning authorities exist, the process does not include the desired planning and siting review and approval process by the community or its elected leaders. In such cases, a local council has no legal authority to regulate the siting and development of a proposed livestock operation.

The environmental aspects of livestock production are regulated through the provincial Environment Act, which contains the Livestock Manure and Mortalities Management Regulation. Another provincial statute, the Farm Practices Protection Act, is intended to promote good relationships in rural communities by ensuring farmers can operate in a normal manner, and by bringing about changes to practices that are unacceptably disturbing neighbours. Livestock operations drawing more than 25,000 liters of water per day from surface or groundwater sources are subject to licensing under the Water Rights Act.

Areas with No Local Land Use Planning



What do you think?

◆

Does the Planning Act provide an effective legislative framework for land use planning and development of livestock operations and other rural land uses in Manitoba?

◆

Are the Provincial Land Use Policies adequate?

◆

How can we ensure that the Provincial Land Use Policies are effective and applied consistently across the province?

The Planning Act

Under the authority of the Planning Act, local governments can adopt district or municipal development plans to designate lands for certain uses such as agriculture and intensive livestock production operations, and to adopt municipal zoning by-laws that define requirements for their siting and development.

The Planning Act also prescribes procedures for the preparation, review and approval of local development plans and zoning bylaws. The requirements include public notice and public hearings for initial adoption and future amendment of local development policies and zoning. There is also provision to appeal development plan and local zoning decisions.

The act was last amended in January 1999 to streamline the development review process. The changes revised the notice provisions for the conditional use process commonly used to review and regulate proposed new or expanding livestock operations. A procedural manual has been prepared to assist planning administrators.

Provincial Land Use Policies Regulation

The land use policies outlined in the Planning Act reflect the provincial interest in land and resources. The Manitoba government uses these policies as a benchmark when reviewing subdivisions or other developments in municipalities where a development plan has not been adopted. The following policies are particularly relevant to the planning and development of intensive livestock operations in Manitoba.

- **Agricultural Policy #2** is intended to "foster environmentally sustainable agriculture by encouraging development, use and management of agricultural lands in a manner that will enhance present and future options for food production and agricultural diversification." The objectives under this policy are to maintain a viable base of agricultural lands for sustained food production and to protect economically viable agricultural operations from encroachment by other land uses that would adversely affect their sustainability. When applied to local development plans, the policy provides for the designation of areas and development of criteria by which livestock and poultry operations are permitted to operate without major restrictions on their operations and expansion.
- **The Water and Shoreland Policy #4** states that "Land is to be developed in a manner to sustain waterways, waterbodies, groundwater and shorelands; and that will sustain yield and water quality from significant aquifers. It directs that hydrogeologically sensitive areas, waterways and shorelands be identified and protected in local plans."

- **The Subdivision policies** provide for "limitations and criteria for subdividing prime agricultural land and viable lower class land and is intended to restrict subdivision for non-agricultural purposes near intensive livestock operations." The intent of the subdivision policies in agricultural areas is to limit non-farm subdivisions and land uses in close proximity to intensive livestock operations and to minimize conflicts with normal agricultural operating practices by maintaining appropriate separation distances.

Municipal Livestock Planning and Zoning

Municipalities have adopted a wide variety of development policies and zoning standards to address intensive livestock production operations. Some municipalities permit almost all operations in agricultural areas, while others exclude or control very large operations. Some municipalities have no zoning controls in place.

Some local development plans outline only general agricultural area policies, while others include specific guidelines for intensive agricultural operations. These guidelines could include siting criteria to minimize conflicts with surrounding land uses, or the need for design or development measures to protect soil and water resources. Many local municipal authorities seek advice from technical advisory committees when reviewing applications for major livestock operations.

Municipalities can establish specific "livestock zones" within which all intensive livestock operations over a certain size must be located. These livestock zones would be located in suitable areas with low development density, compatible land uses and appropriate soil, groundwater sensitivity and distance from surface water. This type of zoning protects livestock operations from future land uses that could conflict with normal agricultural operations, and gives objectors the right to appeal local council's zoning decision to the Municipal Board or to the planning district board for land within a planning district.

Another option used by most municipalities is to identify intensive livestock operations over a specified size as a "conditional use" in a "general agriculture zone." This requires public notice and a hearing to consider the impact of the proposed livestock operation or expansion upon neighbouring land. In this case, the council's decision and any conditions of approval are final and are not subject to appeal.

Councils are being encouraged to make conditional use approval subject to receipt of provincial permits and licences, such as the manure storage construction permit, water rights licence and annual registration of the manure management plan, where required by the province. This type of conditional approval ensures that the applicant and the public are aware that local land use decisions approving a major livestock operation is subject to provincial environmental approvals.

What do you think?

◆

Should land use planning and zoning in agricultural areas be more uniform across the province? If so, how do we ensure that local community values and objectives are adequately reflected in uniform development policies and standards?

◆

Are we using the right planning and zoning tools to deal with large livestock operations? If not, how should they be modified?

◆

How can we ensure that the local review process for livestock development proposals is transparent and accountable to the public?

What do you think?

◆

What are your concerns about current environmental regulations and enforcement practices?

◆

Should there be a requirement for new livestock operations to provide analyses of groundwater quality at proposed sites? Should similar analyses be required once a facility is in operation?

◆

Should the current regulatory trigger number of 400 Animal Units be reduced? Should animal units be defined as cumulative for all types of livestock at one farm?

Zoning bylaws can also specify the types of conditions required, such as a mutual separation distance between future major livestock operations and future residential and recreational areas.

The Environment Act

- **Livestock Manure and Mortalities Management Regulation**
  This regulation under the Environment Act was adopted in 1998 after consultation and a public review of the Livestock Waste Regulation then in effect. The intent of the regulation is to protect the environment, enhance enforcement capabilities and ensure livestock production is sustainable. The regulation addresses manure storage, application and transportation, and livestock mortalities. Under this regulation:

  - Before any manure storage facility can be constructed, a permit must be obtained to ensure it is designed by a qualified, professional engineer, affords appropriate environmental protection for the local soils and water, and is properly sited with respect to wells, springs, sinkholes, watercourses and other environmentally sensitive features. Manure storage facilities may not be constructed within the boundaries of the 100-year flood elevation unless satisfactory flood protection is provided.
  - Manure spread on agricultural land must be applied as a fertilizer. The amount of manure that may be applied is restricted, based on soil texture, nitrate content in the upper 60 centimeters of the soil, and the type of crop to be grown. Annual manure management plans must be submitted at least 60 days before manure application from large-scale livestock production operations. The plans describe the volume and quality of manure to be spread, the method of application to the land, and the landowners and locations where manure is to be spread. Submission of soil test results prior to spreading of manure is mandatory.
  - Spreading of manure is prohibited for large-scale producers during the five-month period between November 10 and April 15. Existing large-scale operations have until November 10, 2003 before they must have sufficient storage capacity to enable them to comply. Small-scale livestock producers are exempt from the ban on winter spreading but must comply with mandatory setback distances from watercourses, wells, springs and sinkholes. Escape of manure from the boundaries of the agricultural operation is prohibited.
  - Spillage of manure on roads and rights-of-way during transportation is prohibited. Manure spills must be immediately reported to an environment officer. Manure must not be released or discharged to surface water or groundwater.
  - Mortalities must be kept secure and, if retained for more than 48 hours, must be kept frozen or refrigerated.

- Enforcement may include a Warning, Order and/or Offence Notice. Warnings may be issued for first time offences that may have minimal environmental consequences. Orders to take corrective action are commonly issued for situations involving runoff of manure or manure storage facilities that may require maintenance.
- Fines plus court costs for Offence Notices range from $382 for individuals to $1,470 for corporations. Repeat offenders causing serious environmental degradation may be prosecuted directly under the Environment Act, where penalties for individuals range up to $100,000, and for corporations up to $1 million and imprisonment.

The first full year of enforcement of the Livestock Manure and Mortalities Regulation (1998-99) resulted in 12 Offence Notices, 28 Warnings, and nine Orders for Remediation. The most common offences included improper storage or disposal of mortalities (fourteen), manure stored too close to water courses (seven), escape of manure from the agricultural operation (six), excessive application (four), and manure storage permit infractions (seven).

◆ **Animal Units**

The number of Animal Units in a livestock operation serves as the regulatory trigger for additional requirements under this provincial regulation and some municipal bylaws and approval processes. Currently, 400 Animal Units trigger the mandatory preparation and submission of manure management plans. This level also serves as the cut-off beyond which winter spreading of manure is prohibited.

Animal Units are currently defined for a single type of livestock and are not cumulative across species. This means that a mixed farm with nearly 400 Animal Units of cattle plus nearly 400 Animal Units of hogs would not currently be prohibited from spreading manure during the winter, nor would the operation be required to submit a manure management plan.

What do you think?

◆

Should winter application of manure be completely banned?

What do you think?

◆

What are the pros and cons of the Farm Practices Protection Board as currently structured and operated?

The Water Rights Act

Manitoba's Water Rights Act requires a licence for developments that withdraw more than 25,000 liters of groundwater or surface water per day. The licensing process includes a hydrogeological assessment of the surface water and groundwater capacity to supply the volume of water required, and the potential impacts on existing uses of these water sources. Licences are issued where the volume of water requested can be withdrawn on a sustainable basis and where negative impacts on other uses are not anticipated. However, most licensed withdrawals are not metered and not audited.

Farm Practices Protection Act

The Farm Practices Protection Act, proclaimed in 1994, establishes a process for reviewing and mediating nuisance disputes arising from the practices of agricultural operations. The intent is to protect farmers from nuisance suits when they are operating in a normal manner, and to bring about changes to practices that are unacceptably disturbing neighbours.

Complaints are handled by the Farm Practices Protection Board, which is appointed by the Manitoba Minister of Agriculture and Food. Through a semi-judicial process, the board brings farmers and complainants together to resolve concerns.

The board uses the Manitoba government's Farm Practices Guidelines to determine normal farming practices for livestock operations. The board has the authority to order the farmer to modify his or her practices if they are considered unacceptable, and can force compliance by filing its Order in court. Under the act, the board can also order a producer to adopt a particular technology to resolve problems.

To date, the board has handled about 27 complaints, including 18 involving odour from livestock operations (12 related to hogs, three to dairy, two to beef and one to horses). In 11 of these cases, the board ordered the livestock operations to modify their practices. Of the remaining cases involving livestock odour, three complaints were dismissed, three were mediated or withdrawn, and one producer was ordered to cease the offending practice.

Farm Practices Guidelines

This series of guidelines — published in four separate versions for hog, dairy, beef and poultry operations — defines acceptable farming practices for livestock operations, based on normal practices in the industry. They are intended for use as a reference tool for evaluating livestock operation proposals, individual practices and disputes between livestock producers and neighbours. The guidelines are widely distributed to producers and municipal councils, and are available to the general public.

The content of the guidelines was developed by a committee composed of:

- Keystone Agricultural Producers
- Association of Manitoba Municipalities
- Consumers Association of Canada (Manitoba)
- University of Manitoba
- Manitoba Agriculture and Food
- Manitoba Conservation
- Manitoba Intergovernmental Affairs
- Manitoba Health
- Agriculture and Agri-Food Canada (PFRA)

The Farm Practices Guidelines for Hog Production are posted on the Manitoba government Web site at www.gov.mb.ca/agriculture/livestock/pork/swine/bah00s00.html.

The Animal Care Act

The care of farm animals is a stewardship responsibility of farmers and the farm animal workers themselves. In Canada, acceptable standards for Farm Animal Production are described in the Codes of Practice.

The Codes are developed by the Canadian Agri-Food Research Council and the Canadian Federation of Humane Societies. A review committee currently develops all Codes of Practice with representatives from farm groups, animal welfare groups, veterinarians, animal scientists, federal and provincial governments, related agricultural sectors and interested individuals. The standards are intended to ensure that animals are cared for in the best possible fashion and any potential distress is prevented before it occurs.

Manitoba's Animal Care Act, proclaimed in 1998, imposes certain duties on owners and caretakers of animals. The Animal Care Regulations incorporate the Codes of Practice as enforceable standards for farming under the act. The standards are revised in accordance with revisions to the national Codes of Practice. The act and regulations are enforced by the Veterinary Services Branch of Manitoba Agriculture and Food.

The act and regulations also cover the transportation of animals within Manitoba. Standards for transportation are set out in the various livestock Codes of Practice, which are referenced in the schedules attached to the Animal Care Regulations.

The Farm Lands Ownership Act

To preserve farmland for use by present and future generations of Canadians, Manitoba passed legislation in 1983 called the Farm Lands Ownership Act. By limiting speculation in farmland, the act helps maintain opportunities for Canadians to acquire Manitoba farmland for agricultural purposes, and supports the development of strong rural communities.

What do you think?

◆

How can the technical review process be improved?

The act affects:

- non-Canadian individuals
- organizations totally, or partly owned by non-Canadians
- publicly traded companies and other organizations whose ownership is open to non-Canadians

These parties must apply to the Farm Lands Ownership Board for an exemption to acquire an interest in more than 40 acres of farmland.

The issue of corporate farm ownership is covered by separate legislation dealing with companies and taxation. The vast majority of farmland is still owned by family farms, but many have incorporated, mainly for reasons of taxation and inheritance.

Technical Review Committee

The Manitoba government's Technical Review Committee assists local governments by evaluating proposals for new or expanding livestock operations. The committee also assists the exchange of information between the proponent, local government and rural residents. The committee consists of professional staff from the provincial departments of Agriculture and Food, Conservation and Intergovernmental Affairs.

Reviews are based on local and provincial land use policies and zoning, the Farm Practices Guidelines for Manitoba livestock producers, the Livestock Manure and Mortalities Management Regulation, other provincial regulations and any other appropriate information, such as local well logs, soil survey maps, hydrogeological studies and engineering standards.

Technical reviews are carried out when the chair of the committee receives a written request from a municipal council. The proponent must supply certain critical information, usually with the assistance of a consulting agricultural engineer. The Manitoba government recommends reviews for all livestock operations in excess of 400 Animal Units.

The committee's final report is provided to the local government agency and the proponent. The report addresses land use issues, siting and location factors, and groundwater and surface water issues, and provides recommendations that may be acted upon at the discretion of the local government agency. The final report is available to the public once the municipal council has had an opportunity to review and discuss the document.

Regulatory Approaches Throughout North America

British Columbia

- The Ministry of Environment, Lands and Parks regulates manure management on farms in British Columbia.
- Farms are exempted from obtaining permits if they meet the Code of Agricultural Practice for Waste Management.
- A farmer peer review process has been established to consider new proposals.
- BC has a Farm Practices Protection Act and Farm Practices Board to hear complaints against agricultural operations, much like the situation in Manitoba.
- The present legislation has undergone extensive review since 1996.

Alberta

- Control for manure management is at the local level. Municipal permits specify manure management requirements, usually according to specific codes or guidelines.
- Alberta Agriculture's responsibility for regulating manure management on farms is limited to assessment and authorization upon request from municipalities.
- This regulatory regime is currently under review.

Saskatchewan

- The Agricultural Operation Act requires intensive livestock operations to obtain approval for manure storage and manure management plans
- A review process for new or expanded livestock operations generates information similar to what would be produced through an environmental assessment. Saskatchewan Environment and Resource Management determines whether a formal seven step assessment is required under the Environmental Assessment Act.

Ontario

- Ontario's environment ministry has no mandate regarding manure management unless there is a spill, accident or environmental damage.
- Construction requirements are specified in a Building Permit, which is issued in accordance with a Code of Practice.
- The Ontario Ministry of Agriculture, Food and Rural Affairs may conduct an assessment and issue a Certificate of Compliance if requested by the local municipality. Such assessments consider storage, setback distances and nutrient plans unless there is less than one Animal Unit/acre associated with the operation.
- The Ontario government is currently soliciting public comment on regulation of intensive agricultural operations within the province.

Quebec

- Quebec's Act to Preserve Agricultural Land and Agricultural Activities limits urban and industrial encroachment on prime farmland.
- The "Regulation respecting the reduction of pollution from agricultural sources" requires preparation of nutrient management plans for most livestock operations and cash crop producers. Manure and fertilizer application rates must be based on plant requirements for phosphorus in soils with high phosphorous levels. Producers must prepare and update nutrient management plans, manure "export" manifests and manure "importation" manifests, which are subject to audit by the Ministry of Environment and Wildlife.
- The regulation also establishes provincial standards for setback distances between livestock operations and single dwellings, and residential or recreation areas.

United States Government

- In 1999 the US Department of Agriculture and the Environmental Protection Agency announced a Unified National Strategy for Animal Feeding Operations. The strategy sets forth a range of flexible actions to minimize the water quality and public health impacts of livestock operations.
- Up to 20,000 concentrated animal feeding operations will be required to develop comprehensive nutrient management plans as part of a national permitting system. These operations generally include facilities with 1,000 or more animal units, facilities with unacceptable conditions such as direct discharge into waterways, and facilities that significantly contribute to water quality impairment.
- About 95 per cent of the remaining 450,000 animal feeding operations are expected to implement voluntary comprehensive nutrient management plans under the AFO Strategy.

Minnesota

- Livestock producers with more than 10 Animal Units must complete feedlot permit applications whenever new feedlots are established, old feedlots are expanded or modified, ownership has changed or the operation has been determined to be a pollution hazard.
- All Minnesota feedlot permits require a manure management plan that accounts for all manure produced by the operation. These plans are not required to be submitted to any government agency but the producer must test the manure for nitrogen, phosphorous and potassium at the time of agitation/application. Soil sampling to determine the nutrient content is mandatory.
- Producers who build manure storage structures that provide at least 120 days of storage may be eligible for personal property tax exemptions. Manure storages must have access from two locations for pumping and agitation equipment, and concrete under-barn storages must be continuously ventilated.

North Dakota

- North Dakota Department of Health is responsible for controlling pollution of surface waters, groundwaters and the air of the state.
- The department's approval is required for concentrated feeding operations. Operators must submit site plans with setback distances and topographical information. Approval is granted if the department determines the operation will not pollute state waters. Letters of Approval may also specify measures to be taken for operations likely to cause pollution. Approvals are valid as long as the facility is not changed.
- Operations with livestock housing must store livestock manure for at least 180 days to avoid application on frozen ground. Storage structures must not overflow. Any runoff from confined areas or from solid manure storage must be contained on the property and prevented from reaching any natural drainage.
- Land application is recommended as the best way to keep manure out of the waters of the state, but volumes, application rates or nutrient levels are not regulated.

Iowa

- Construction permits for earthen manure storages are required for swine operations with more than 200,000 pounds of animals (approximately 1,000 feeder hogs). Swine operations with more than 625,000 pounds of animals (approximately 3,000 feeder hogs) require a construction permit regardless of type of manure storage. Permits are also required for solid manure produced by 1.25 million pounds or more of animals (1,000 head cattle feedlot).
- Manure management plans must be filed for all operations permitted since May 31, 1985. The plans are based on crop utilization of nitrogen and crop yields. Temporary over-application of nitrogen is allowed if phosphorus-based planning is used.
- If the land needed for manure application is not owned or rented, a written agreement must accompany the manure management plan in order to receive a construction permit. This written agreement must show the number of acres and the duration of the agreement.
- Operations with over 200,000 pounds but fewer than 625,000 pounds of animals may file an abbreviated manure management plan 60 days prior to applying manure. These plans do not have to include the written agreements.
- Iowa has a corporate farming law that provides restrictions on processors owning production operations.

What do you think?

◆

How does the effectiveness of our current regulations compare with those in other jurisdictions?

◆

Do you think we should go further?

◆

What are your suggestions?

LIVESTOCK STEWARDSHIP 2000

Moving Forward in Manitoba

What We've Done: The Livestock Stewardship Initiative

The Manitoba government is building on existing livestock industry regulations and programs through the Livestock Stewardship Initiative. The strategy involves a series of actions aimed at protecting the environment and ensuring the future of the province's livestock industry.

The public consultation process will be a major focus of the initiative. On March 3, 2000, the government announced several other immediate actions to monitor and address the environmental impact of livestock industry development:

Environmental Monitoring

- All constructed manure storage facilities will be inspected to ensure protection of surface and groundwater. Previously, only storages constructed after 1994 were inspected.
- The province's groundwater sensitivity maps will be updated to identify areas where additional protective measures may be needed.
- An independent review will be commissioned to examine the present state of soils and the sustainability of long-term manure application to the land.

Land Use Planning

- The province will consult with and assist municipalities that currently do not have land use plans to adopt development plans and zoning bylaws, and join planning districts. The province provides organizational and advisory assistance, as well as 60 per cent cost-shared financial assistance of up to $40,000.
- The province will provide financial assistance, in the form of one-time 50 per cent cost-shared grants, to assist municipalities to update existing bylaws in a timely manner.
- The role of provincial Technical Review committees, which provide advice to municipalities on livestock proposals, will be expanded to include the evaluation of the local cumulative impacts of the livestock industry. This will assist in identifying opportunities for growth of the industry across the province. The province will also improve public access to the reports of the Technical Review committees.

Quality Assurance

- The province will be introducing the On-Farm Food Safety Regulation to ensure a high level of product quality and contribute to the confidence of consumers and Manitoba's international trading partners.

Share Your Views

The Manitoba government wants to hear your views on expansion of the livestock industry. The public consultations are an opportunity to express your ideas through written submissions or public presentations.

Written submissions should be sent to:

Livestock Stewardship Initiative
123 Main Street, Suite 160
Winnipeg, Manitoba
R3C 1A5

Public meetings will be held throughout the province beginning in June 2000. For the time and location of the public meeting in your area, watch for ads in your local newspaper, check the government Web site (**www.gov.mb.ca**) or telephone **1-800-282-8069**.

For More Information

The Manitoba government Web site (**www.gov.mb.ca**) contains extensive information on livestock production and provincial regulations related to this industry. The site contains a search engine to help you find relevant information. You can also go directly to the Web sites of government departments such as Manitoba Agriculture (**www.gov.mb.ca/agriculture**).